

City of Guelph TRANSIENT PRESSURE MONITORING, MODELLING & MITIGATION

The City of Guelph water system operates with two pressure zones. A third zone is being developed and implemented.

The elevated storage in the second pressure zone was taken out of service for rehabilitation and this pressure zone was converted to a closed pressure zone for the duration. Almost immediately, the City began to experience a number of significant water main breaks in a focused area of the pressure zone.

C3 Water provided operational and pressure transient analysis, primarily using existing SCADA data and the One Water Hydrant Monitoring devices that the City has installed.

The analysis led to a better understanding of the source of pressure transients in the modified operational mode, and short-term mitigation measures. As a long-term measure, the City hired C3 Water to build and calibrate a transient analysis model, and review transient protection measures in select water facilities.

Project References:

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Figure 1. Speedvale Rd. Water Tower